We claim

1. A thermal transfer assembly comprised of a thermal transfer ribbon, a covercoated transfer sheet, a film-forming glass frit, and metal oxide containing ceramic colorant, wherein:

(a) said thermal transfer ribbon is comprised of a support and, disposed above said support, a ceramic ink layer;

(b) said ceramic ink layer is comprised of a solid, volatilizable carbonaceous binder ,and

(c) said covercoated transfer sheet is comprised of a support and a covercoat, wherein said covercoat is comprised of a solid, carbonaceous binder,

(d) said metal oxide containing ceramic colorant is selected from the group consisting of metal oxide containing pigment, metal oxide containing opacifying agent, and mixtures thereof; and

(e) said metal oxide containing ceramic colorant is present in said ceramic ink layer and/or said covercoat.

2. The thermal transfer assembly as recited in claim 1, wherein said metal oxide containing ceramic colorant is present in said ceramic ink layer.

3. The thermal transfer assembly as recited in claim 1, wherein said metal oxide containing ceramic colorant present in said ceramic ink layer is a metal oxide containing pigment.

4. A thermal transfer assembly comprised of a thermal transfer ribbon, a covercoated transfer sheet, a film forming glass frit, and metal oxide containing ceramic colorant wherein:

(a) said thermal transfer ribbon is comprised of a support and, disposed above said support, a ceramic ink layer, wherein said ceramic ink layer is present at a coating

weight of from about 2 to about 15 grams per square meter, and is comprised of from about 15 to about 94.5 weight percent of a solid, volatilizable carbonaceous binder;

(b) said covercoated transfer sheet is comprised of a support and , disposed above said support, a covercoat, wherein said covercoat is present at a coating weight of from about 1 to about 20 grams per square meter and is comprised of from about 15 to about 94.5 weight percent of a solid, volatilizable carbonaceous binder, and

(c) said film-forming glass frit is present in a said ceramic ink layer and/or said covercoat;

(d) said metal oxide containing ceramic colorant is selected from the group consisting of metal oxide containing pigment, metal oxide containing opacifying agent, and mixtures thereof; and

(e) said metal oxide containing ceramic colorant is present in said ceramic ink layer and/or said covercoat.

5. The thermal transfer assembly as recited in claim 4, wherein said metal oxide containing ceramic colorant is present in said ceramic ink layer.

6. The thermal transfer assembly as recited in claim 5, wherein said metal oxide containing ceramic colorant present in said ceramic ink layer is a metal oxide containing pigment.

7. The thermal transfer assembly as recited in claim 4, wherein said solid, volatilizable carbonaeous binder, after it has been heated at a temperature greater than 500 degrees Celsius for at least 6 minutes in an atmosphere containing at least about 15 volume percent of oxygen, is substantially volatilized such that less than about 5 weight percent of said volatilizable carbonaceous binder remains as a solid phase.

8. The thermal transfer assembly as recited in claim 4, wherein said film-forming frit has a melting temperature of greater than about 300 degrees Celsius.

9. The thermal transfer assembly as recited in claim 4, wherein said metal oxide containing ceramic colorant has a particle size distribution such that substantially all of its particles are smaller than about 20 microns

10. The thermal transfer assembly as recited in claim 4, wherein said metal oxide containing ceramic colorant has a first refractive index, such film-forming glass frit has a second refractive index, and the difference between said first refractive index and said second refractive index is at least about 0.1.

11. The thermal transfer assembly as recited in claim 4, wherein said metal oxide containing ceramic colorant has a first melting point, said film-forming glass frit has a second melting point, and said first melting point exceeds said second melting point by at least about 50 degrees.

12. The thermal transfer assembly as recited in claim 4, wherein said metal oxide containing ceramic colorant has a first concentration in said thermal transfer assembly, said film-forming glass frit has a second concentration in said thermal transfer assembly, and the ratio of said first concentration to said second concentration is no greater than about 1.25.

13. A thermal transfer assembly comprised of a thermal transfer ribbon, a covercoated transfer sheet, a film forming glass frit, and a metal oxide containing ceramic colorant, material, wherein:

(a) said thermal transfer ribbon is comprised of a support and, disposed above said support, a ceramic ink layer, wherein said ceramic ink layer is present at a coating weight of from about 2 to about 15 grams per square meter and is comprised of from about 15 to about 94.5 weight percent of a solid, volatilizable carbonaceous binder;

(b) said covercoated transfer sheet is comprised of a support and , disposed above said support, a covercoat, wherein said covercoat is present at a coating weight of

from about 1 to about 20 grams per square meter and is comprised of from about 15 to about 94.5 weight percent of a solid, volatilizable carbonaceous binder; and

(c) said film forming glass frit is present in at a level of from about 2 weight percent to about 75 weight percent in said ceramic ink layer and/or said covercoat,

(d) said metal oxide containing ceramic colorant is present at a level greater than 0.5 weight percent in said ceramic ink layer and/or said covercoat,

(e) said solid, volatilizable carbonaeous binder, after it has been heated at a temperature greater than 500 degrees Celsius for at least 6 minutes in an atmosphere containing at least about 15 volume percent of oxygen, is substantially volatilized such that less than about 5 weight percent of said volatilizable carbonaceous binder remains as a solid phase,

(f) said film-forming frit has a melting temperature of greater than about 300 degrees Centigrade;

(g) said metal oxide containing ceramic colorant material has a particle size distribution such that substantially all of its particles are smaller than about 20 microns, and is selected from the group consisting of metal oxide containing pigment, metal oxide containing opacifying agent, and mixtures thereof,

(h) said metal oxide containing ceramic colorant material has a first refractive index, and such film-forming glass frit has a second refractive index, and the difference between said first refractive index and said second refractive index is at least about 0.1,

(i) said metal oxide containing ceramic colorant material has a first melting point, and said film-forming glass frit has a second melting point, and such said first melting point exceeds said second melting point by at least about 50 degrees, and

(j) said metal oxide containing ceramic colorant material material has a first concentration in said thermal transfer assembly, said film-forming glass frit has a second concentration in said thermal transfer assembly, such that the ratio of said first concentration to said second concentration is no greater than about 1.25.

14. The thermal transfer assembly as recited in claim 1, wherein said film-forming frit has a melting temperature of greater than 550 degrees Centigrade.

15. The thermal transfer assembly as recited in claim 2, wherein said film-forming frit has a melting temperature of greater than 750 degrees Centigrade.

16. The thermal transfer assembly as recited in claim 3, wherein said film-forming frit has a melting temperature of greater than 950 degrees Centigrade.

17. The thermal transfer assembly as recited in claim 1, wherein said film-forming frit has a particle size distribution such that substantially all of its particles are smaller than about 10 microns.

18. The thermal transfer assembly as recited in claim 4, wherein at least about 80 weight percent of said particles of said film-forming frit are smaller than about 5 microns.

19. The thermal transfer assembly as recited in claim 4, wherein said film-forming frit is comprised of at least 5 weight percent of silica.

20. The thermal transfer assembly as recited in claim 4, wherein said carbonaceous binder has a softening point of from about 45 to about 150 degrees Centigrade.

21. The thermal transfer assembly as recited in claim 4, wherein said carbonaceous binder is comprised of a mixture of a first synthetic resin and a second synthetic resin.

22. The thermal transfer assembly as recited in claim 4, wherein said carbonaceous binder is comprised of polybutylmethacryalte and polymethylmethacrylate.

23. The thermal transfer assembly as recited in claim 4 wherein said thermal transfer assembly is comprised of a metal-oxide containing opacifying agent with a melting point of at least about 350 degrees Centigrade.

24. The thermal transfer assembly as recited in claim 23, wherein the refractive index of said opacifying agent is greater than 2.0.

25. The thermal transfer assembly as recited in claim 23 wherein the refractive index of said opacifying agent is greater than 2.4.

26. The thermal transfer assembly as recited in claim 25, wherein substantially all of the particles in said opacifying agent are smaller than 10 microns.

27. The thermal transfer assembly as recited in claim 26, wherein at least about 80 weight percent of the particles in said opacifying agent are smaller than 5 microns.

29. The thermal transfer assembly as recited in claim 4, wherein said thermal transfer ribbon is comprised of metal oxide containing pigment and film-forming frit.

30. The thermal transfer assembly as recited in claim 29, wherein the ratio of said film-forming frit present in said thermal transfer ribbon to said pigment present in said thermal transfer ribbon is at least about 1.25.

31. The thermal transfer assembly as recited in claim 29, wherein the ratio of said film-forming frit present in said thermal transfer ribbon to said pigment present in said thermal transfer ribbon is at least about 3.

32. The thermal transfer assembly as recited in claim 29, wherein the ratio of said film-forming frit present in said thermal transfer ribbon to said pigment present in said thermal transfer ribbon is at least about 4.

33. The thermal transfer assembly as recited in claim 29, wherein said pigment has a particle size distribution such that at least about 90 weight percent of its particles are from about 0.2 to about 20 microns.

34. The thermal transfer assembly as recited in claim 33, wherein said pigment has a refractive index greater than about 1.4.

35. The thermal transfer assembly as recited in claim 33, wherein said pigment has a refractive index greater than about 1.6.

36. The thermal transfer assembly as recited in claim 4, wherein said thermal transfer ribbon is contiguous with said covercoated transfer sheet.

37. The thermal transfer assembly as recited in claim 36 wherein said covercoated transfer sheet comprises a flat flexible support and a transferable covercoat releasably bound to said flat, flexible support.

38. The thermal transfer assembly as recited in claim 37, wherein, when said transferable covercoat is printed with an image to form an imaged covercoat, said image has a higher adhesion to said covercoat than said covercoat has to said flexible substrate.

39. The thermal transfer assembly as recited in claim 38, wherein said imaged covercoat has a elongation to break of at least about 1 percent.

40. The thermal transfer assembly as recited in claim 39, wherein said imaged covercoat can be separated from said flexible support at a temperature of 20 degrees Celsius with a peel force of less than about 100 grams per centimeter.

41. The thermal transfer assembly as recited in claim 40, wherein said flexible support has a surface energy of less than about 50 dynes per centimeter.

42. The thermal transfer assembly as recited in claim 41, wherein said flexible support has a Sheffield smoothness of from about 1 to about 50 Sheffield units.

43. The thermal transfer assembly as recited in claim 37, wherein a release layer is disposed between said flexible support and said transferable covercoat.

44. The thermal transfer assembly as recited in claim 43, wherein, when said transferable covercoat is printed with an image to form an imaged covercoat, said image has a higher adhesion to said covercoat than said covercoat has to said release layer.

45. The thermal transfer assembly as recited in claim 44, wherein said imaged covercoat has an elongation to break of at least about 1 percent.

46. The thermal transfer assembly as recited in claim 45 wherein said imaged covercoat can be separated from said release layer at a temperature of 20 degrees Celsius with a peel force of less than about 100 grams per centimeter.

47 The thermal transfer assembly as recited in claim 46, wherein said release layer has a top surface, and said top surface of said release layer has a surface energy of less than about 50 dynes per centimeter.

48. The thermal transfer assembly as recited in claim 37,wherein said transferable covercoat is comprised of ethyl cellulose.

49 The thermal transfer assembly as recited in claim 37, wherein said transferable covercoat is comprised of at least 70 weight percent of a polymeric material.

50. The thermal transfer assembly as recited in claim 49 wherein said polymeric material is a polyacrylate.

51. The thermal transfer assembly as recited in claim 50, wherein herein said polyacrylate is selected from the group consisting of polybuytylacrylate, polyethyl-co-butylacrylate, poly-2-ethylhexylacrylate, and mixtures thereof.

52. The thermal transfer assembly as recited in claim 49 wherein said polymeric material is a polymethacrylate.

53. The thermal transfer assembly as recited in claim 52, wherein said polymethacrylate is selected from the group consisting of polymethylacrylate, polymethylacrylate-co-butylacrylate, polybutylmethacrylate, and mixtures thereof.

54 The thermal transfer assembly as recited in claim 49, wherein said polymeric material is a polyacetal.

55 The thermal transfer assembly as recited in claim 54, wherein said polyacetal is selected from the group consisting of polyvinylacetal, polyvinylbutyral, polyvinylformal, polyvinylacetal-co-butyral, and mixtures thereof.

56. The thermal transfer assembly as recited in claim 37,wherein said transferable covercoat has a softening point in the range of from about 50 to about 150 degrees Centigrade.

57. The thermal transfer assembly as recited in claim 37,wherein said transferable covercoat is substantially water-insoluble.

58. The thermal transfer assembly as recited in claim 57, wherein less than 0.5 weight percent of said transferable covercoat dissolves after it has been contacted with water at a temperature of 40 degrees Centigrade for 1 minute.

59. The thermal transfer assembly as recited in claim 37, wherein said transferable covercoat has an elongation to break of greater than 1 percent.

60. The thermal transfer assembly as recited in claim 37,wherein said transferable covercoat has an elongation to break of greater than 5 percent.

61. The thermal transfer assembly as recited in claim 37, wherein said transferable covercoat is comprised of less than about 10 weight percent of tackifying agent.

62. The thermal transfer assembly as recited in claim 37, wherein said transferable covercoat is comprised of from about 2 to about 80 weight percent of frit.

63. The thermal transfer assembly as recited in claim 37, wherein said transferable covercoat is comprised of from about 50 to about 60 weight percent of frit.

64. The thermal transfer assembly as recited in claim 37, wherein said transferable covercoat is comprised of 1 to about 40 weight percent of opacifying agent.

65. The thermal transfer assembly as recited in claim 37, wherein said transferable covercoat is comprised of at least 70 weight percent of a polymeric material

66. The thermal transfer assembly as recited in claim 37, wherein the amount of frit in said transferable overcoat plus the amount of opacifying agent in said transferable covercoat exceeds the amount of polymeric material in said transferable covercoat.

67. The thermal transfer assembly as recited in claim 66, wherein the amount of frit in said transferable covercoat exceeds the amount of opacifying agent in said transferable covercoat.

68. The thermal transfer assembly as recited in claim 67, wherein said transferable covercoat is comprised of from 1 to about 40 weight percent of inorganic pigment.

69. The thermal transfer assembly as recited in claim 68, wherein said transferable covercoat is comprised of frit.

70. The thermal transfer assembly as recited in claim 69, wherein said transferable covercoat is comprised of polymeric material.

71. The thermal transfer assembly as recited in claim 70, wherein the amount of frit in said transferable covercoat plus the amount of polymeric material in said transferable covercoat exceeds the amount of inorganic pigment in said transferable covercoat.

72. The thermal transfer assembly as recited in claim 37, wherein said flexible support is comprised of at least about 80 weight percent of a synthetic polymeric material.

73. The thermal transfer assembly as recited in claim 72, wherein said synthetic polymeric material is a polyalkylene polymeric material.

74. The thermal transfer assembly as recited in claim 73, wherein said polyakylene polymeric material is selected from the group consisting of polyethyelene, polypropylene, polybutylene, and mixtures thereof.

75. The thermal transfer assembly as recited in claim 74, wherein said flexible support has a thickness of from about 50 microns to about 250 microns.

76. The thermal transfer assembly as recited in claim 75, wherein said thickness of said flexible support does not vary across the support by more than about 15 percent.

77. The thermal transfer assembly as recited in claim 33, wherein said covercoated transfer sheet further comprises a release layer disposed between and contiguous with each of said flat flexible support and said transferable covercoat.

78. The thermal transfer assembly as recited in claim 77, wherein said flat flexible support is comprised of at least about 80 weight percent of cellulosic material.

79. The thermal transfer assembly as recited in claim 78, wherein said flat flexible support is paper.

80. The thermal transfer assembly as recited in claim 79, wherein said paper has a basis weight of from about 45 to about 200 grams per square meter.

81. The thermal transfer assembly as recited in claim 80 wherein at least one surface of said paper is sized with starch.

82. The thermal transfer assembly as recited in claim 81 wherein said release layer is comprised of a mixture of polyethylene and wax.

83. The thermal transfer assembly as recited in claim 82, wherein said release layer has a surface energy of less than about 50 dynes per centimeter.

84. The thermal transfer assembly as recited in claim 83, wherein said release layer is comprised of a polyolefin.

85. The thermal transfer assembly as recited in claim 84, wherein said polyolefin is selected from the group consisting of polyethylene, polypropylene, polybutylene, and mixtures thereof.

86. The thermal transfer assembly as recited in claim 85, wherein said release layer has a Sheffield smoothness of from about 1to about 50 Sheffield units.

87. The thermal transfer assembly as recited in claim 86, wherein said release layer is comprised of silicone.

88. The thermal transfer assembly as recited in claim 86, wherein said release layer is comprised of a fluoropolymer release agent.

89. A digitally printed assembly comprised of a substrate and, disposed on said substrate, a digitally printed ceramic ink image, wherein said ceramic ink image is comprised of a solid, volatilizable, carbonaceous binder a film-forming frit, and a metal oxide containing ceramic colorant selected from the group consisting of metal oxide containing pigment, metal oxide containing opacifying agent, and mixtures thereof.

90. A digitally printed assembly comprised of a substrate and, disposed on said substrate, a digitally printed ceramic ink image, wherein said ceramic ink image comprises from about 15 to about 94.5 weight percent of a solid, volatilizable carbonaceous binder, from about 5 to about 75 weight percent of a film-forming frit, and at least about 0.5 weight percent of a metal oxide containing ceramic colorant selected from the group consisting of metal oxide containing pigment, metal oxide containing opacifying agent, and mixtures thereof.

91. The digitally printed assembly as recited in claim 90, wherein said solid, volatilizable carbonaeous binder, after it has been heated at a temperature greater than 500 degrees Centigrade for at least 6 minutes in an atmosphere containing at least about 15 volume

percent of oxygen, is substantially volatilized such that less than about 5 weight percent of said volatilizable carbonaceous binder remains as a solid phase.

92. The digitally printed assembly as recited in claim 90, wherein said film-forming frit has a melting temperature of greater than about 300 degrees Celsius.

93. The digitally printed assembly as recited in claim 90, wherein said metal oxide containing ceramic colorant has a particle size distribution such that substantially all of its particles are smaller than about 20 microns.

94. The digitally printed assembly as recited in claim 90, wherein.said metal oxide containing ceramic colorant has a first refractive index, and such film-forming frit has a second refractive index, such that the difference between said first refractive index and said second refractive index is at least 0.1.

95. The digitally printed assembly as recited in claim 90, wherein said metal oxide containing ceramic colorant has a first melting point, and said film-forming frit has a second melting point, such that said first melting point exceeds said second melting point by at least about 100 degrees.

96. The digitally printed assembly as recited in claim 90, wherein said metal oxide containing ceramic colorant has a first concentration in said ceramic ink layer, said film-forming frit has a second concentration in said ceramic ink layer, such that the ratio of said first concentration to said second concentration is no greater than about 1.25.

97. The digitally printed assembly as recited in claim 90, wherein said substrate is a ceramic substrate.

98. A digitally printed assembly comprised of a substrate and, disposed on said substrate, a digitally printed ceramic ink image, wherein said ceramic ink image comprises from about 15 to about 94.5 weight percent of a solid, volatilizable carbonaceous binder, from about 5 to

about 75 weight percent of a film-forming frit, and at least about 0.5 weight percent of a metal oxide containing ceramic colorant, and wherein:

(a) said solid, volatilizable carbonaeous binder, after it has been heated at a temperature greater than 500 degrees Celsius for at least 6 minutes in an atmosphere containing at least about 15 volume percent of oxygen, is substantially volatilized such that less than about 5 weight percent of said volatilizable carbonaceous binder remains as a solid phase,

(b) said film-forming frit has a melting temperature of greater than about 300 degrees Celsius,

(c) said metal oxide containing ceramic colorant has a particle size distribution such that substantially all of its particles are smaller than about 20 microns,

(d) said metal oxide containing ceramic colorant is selected from the group consisting of an opacifying agent, a ceramic pigment, and mixtures thereof, it has a first refractive index, and such film-forming frit has a second refractive index, such that the difference between said first refractive index and said second refractive index is at least 0.1,

(e) said metal oxide containing ceramic colorant has a first melting point, and said film-formingfrit has a second melting point, such that said first melting point exceeds said second melting point by at least about 50 degrees, and

(f) said metal oxide containing ceramic colorant has a first concentration in said ceramic ink layer, said film-forming frit has a second concentration in said ceramic ink layer, such that the ratio of said first concentration to said second concentration is no greater than about 1.25.

99. The digitally printed assembly as recited in claim 90, wherein said substrate comprises at least about 80 weight percent of a plastic material.

100. The digitally printed assembly as recited in claim 90, wherein said substrate comprises at least about 80 weight percent of a ceramic material.

101. The digitally printed assembly as recited in claim 90, wherein said substrate comprises at least about 80 weight percent of a glass-ceramic material.

102. The digitally printed assembly as recited in claim 90, wherein said substrate has a melting temperature of at least about 580 degrees.

103. The digitally printed assembly as recited in claim 90, wherein said substrate has a melting temperature of from about 580 to about 1,200 degrees Celsius.

104. The digitally printed assembly as recited in claim 90 wherein said substrate comprises at least about 80 weight percent of glass.

105. The digitally printed assembly as recited in claim 90, wherein said digitally printed ceramic ink image is heat treated at a temperature of at least 350 degrees Celsius for at least about 5 minutes, wherein prior to said heat treating said digitally printed ceramic ink image has a first opacity, wherein after said heat treating said digitally printed ceramic ink image has a second opacity, and wherein the difference between said first opacity and said second opacity is less than about 15 percent.

106 The digitally printed assembly as recited in claim 105, wherein said difference between said first opacity and said second opacity is less than about 8 percent.

107. The digitally printed assembly as recited in claim 90, wherein said digitally printed ceramic ink image is heat treated at a temperature of at least 350 degrees Centigrade for at least about 5 minutes, wherein prior to said heat treating said digitally printed ceramic ink image has a first transmission density, wherein after said heat treating said digitally printed

ceramic ink image has a second transmission density, and said second transmission density is at least about 0.8 times as great as said first transmission density.

108. The digitally printed assembly as recited in claim 90, wherein said digitally printed ceramic ink image is heat treated at a temperature of at least 350 degrees Centigrade for at least about 5 minutes, wherein prior to said heat treating said digitally printed ceramic ink image has a first reflection density, wherein after said heat treating said digitally printed ceramic ink image has a second reflection density, and said second reflection density is at least about 0.8 times as great as said first reflection density.

109. The digitally printed assembly as recited in claim 90, wherein said film-forming frit has a melting temperature of greater than 550 degrees Centigrade.

110. The digitally printed assembly as recited in claim 90, wherein said film-forming frit has a melting temperature of greater than 750 degrees Centigrade.

111. The digitally printed assembly as recited in claim 90, wherein said film-forming frit has a melting temperature of greater than 950 degrees Centigrade.

112. The digitally printed assembly as recited in claim 111, wherein said film-forming frit has a particle size distribution such that substantially all of its particles are smaller than about 10 microns.

113. The digitally printed assembly as recited in claim 94, wherein at least about 80 weight percent of said particles of said film-forming frit are smaller than about 5 microns.

114. The digitally printed assembly as recited in claim 113, wherein said film-forming frit is comprised of at least 5 weight percent of silica.

115. The digitally printed assembly as recited in claim 90, wherein said carbonaceous binder has a softening point of from about 45 to about 150 degrees Centigrade.

116. The digitally printed assembly as recited in claim 115 wherein said carbonaceous binder is comprised of a mixture of a first synthetic resin and a second synthetic resin.

117. The digitally printed assembly as recited in claim 116, wherein said carbonaceous binder is comprised of polybutylmethacryalte and polymethylmethacrylate, and wherein said metal oxide containing ceramic colorant is an opacifying agent, said first melting point is the melting point of said opacifying agent, and said first melting point is at least about 350 degrees Centigrade.

118. The digitally printed assembly as recited in claim 90, wherein said metal oxide containing agent is an opacifying agent, and wherein said first refractive index of said opacifying agent is greater than 2.0.

119. The digitally printed assembly as recited in claim 118, wherein said first refractive index of said opacifying agent is greater than 2.4.

120. The digitally printed assembly as recited in claim 119, wherein substantially all of the particles in said opacifying agent are smaller than 10 microns.

121. The digitally printed assembly as recited in claim 120, wherein at least about 80 weight percent of the particles in said opacifying agent are smaller than 5 microns.

122. The digitally printed assembly as recited in claim 90, wherein said digitally printed assembly is comprised of pigment and film-forming frit.

123 The digitally printed assembly as recited in claim 122, wherein the ratio of said film-forming frit present in said thermal transfer ribbon to said pigment present in said digitally printed assembly is at least about 1.25.

124 The digitally printed assembly as recited in claim 123, wherein the ratio of said film-forming frit present in said thermal transfer ribbon to said pigment present in said digitally printed assembly is at least about 2.

125. The digitally printed assembly as recited in claim 123, wherein the ratio of said film-forming frit present in said thermal transfer ribbon to said pigment present in said digitally printed assembly is at least about 3.

126. The digitally printed assembly as recited in claim 123, wherein the ratio of said film-forming frit present in said thermal transfer ribbon to said pigment present in said digitally printed assembly is at least about 4.

127. The digitally printed assembly as recited in claim 118, wherein said pigment has a particle size distribution such that at least about 90 weight percent of its particles are from about 0.2 to about 20 microns.

128. The digitally printed assembly as recited in claim 127, wherein said pigment has a refractive index greater than about 1.4.

129. The digitally printed assembly as recited in claim 128, wherein said pigment has a refractive index greater than about 1.6.

130. The product of the process of subjecting a digitally printed assembly to a temperature of at least 350 degrees Centigrade for at least 5 minutes, wherein said digitally printed assembly comprises a substrate and, disposed on said substrate, a digitally printed ceramic ink image, and wherein said ceramic ink image comprises a solid, volatilizable carbonaceous binder, a film-forming frit, and a metal oxide containing ceramic colorant selected from the group consisting of metal oxide containing opacifying agent, metal oxide containing pigment, and mixtures thereof.

131. The product as recited in claim 130, wherein said digitially printed asssembly is subjected to a temperature of at least 500 degrees Celsius for at least 6 minutes in at atmosphere containing at least about 15 percent of oxygen.

material.

132. The product of the process as recited in claim 131, wherein said ceramic ink image comprises from about 15 to about 94.5 weight percent of said solid, volatilizable carbonaceous binder, from about 5 to about 75 weight percent of said film-forming frit, and at least about 0.5 weight percent of said metal oxide containing material.

133. The product of the process as recited in claim 132, wherein said solid, volatilizable carbonaeous binder, after it has been heated at a temperature greater than 500 degrees Centigrade for at least 6 minutes in an atmosphere containing at least about 15 volume percent of oxygen, is substantially volatilized such that less than about 5 weight percent of said volatilizable carbonaceous binder remains as a solid phase.

134. The product of the process as recited in claim 133, wherein said film-forming frit has a melting temperature of greater than about 300 degrees Centigrade.

135. The product of the process as recited in claim 134, wherein said metal oxide containing material is an opacifying agent, and wherein said opacifying agent has a particle size distribution such that substantially all of its particles are smaller than about 20 microns.

136. The product of the process as recited in claim 135, wherein said opacifying agent has a first refractive index, and such film-forming frit has a second refractive index, such that the difference between said first refractive index and said second refractive index is at least about 0.1.

137. The product of the process as recited in claim 135, wherein said opacifying agent has a first melting point, and said film-forming frit has a second melting point, such that said first melting point exceeds said second melting point by at least about 50 degrees.

138. The product of the process as recited in claim 135, wherein said opacifying agent has a first concentration in said ceramic ink layer, said film-forming glass frit has a second

concentration in said ceramic ink layer, such that the ratio of said first concentration to said second concentration is no greater than about 1.25.

139. The product of the process as recited in claim 130, wherein said substrate is a ceramic substrate.

140. The product of the process of subjecting a digitally printed assembly to a temperature of at least 500 degrees Centigrade for at least 6 minutes to produce a heat treated assembly, wherein said digitally printed assembly comprises a substrate and, disposed on said substrate, a digitally printed ceramic ink image, wherein said ceramic ink image comprises from about 15 to about 94.5 weight percent of a solid, volatilizable carbonaceous binder, from about 5 to about 75 weight percent of a film-forming frit, and at least 0.5 weight percent of a metal-oxide containing ceramic colorant, and wherein:

(a) said solid, volatilizable carbonaceous binder, after it has been heated at a temperature greater than 500 degrees Centigrade for at least 6 minutes in an atmosphere containing at least about 15 volume percent of oxygen, is substantially volatilized such that less than about 5 weight percent of said volatilizable carbonaceous binder remains as a solid phase,

(b) said film-forming frit has a melting temperature of greater than about 300 degrees Centigrade,

(c) said metal oxide containing ceramic colorant has a particle size distribution such that substantially all of its particles are smaller than about 20 microns and is selected from the group consisting of opacifying material, ceramic pigment material, and mixtures thereof,

(d)said metal oxide containing ceramic colorant material has a first refractive index, and said film-forming frit has a second refractive index, such that the difference between such first refractive index and said second refractive index is at least about 0.1,

(e) said metal oxide containing ceramic colorant material has a first melting point, and said film-forming frit has a second melting point, such that said first melting point exceeds said second melting point by at least about 50 degrees, and

(f) said metal oxide containing material has a first concentration in said ceramic ink layer, said film forming glass frit has a second concentration in said ceramic ink layer, such that the ratio of said first concentration to said second concentration is no greater than about 1.25.

141. The product of the process as recited in claim 140, wherein the opacity of said heat treated assembly is less than 15 percent different than the opacity of said digitally printed assembly prior to the time it is heat treated.

142. The product of the process as recited in claim 140, wherein said heat treated assembly has a transmission density that is at least about 0.8 times as great as the transmission density of said digitally printed assembly prior to the time it is heat treated.

143. The product of the process as recited in claim 140, wherein said heat treated assembly has a reflection density that is at least about 0.8 times as great as the reflection density of said digitally printed assembly prior to the time it is heated treated.

144. The product of the process recited in claim 140, wherein said substrate comprises at least about 80 weight percent of a plastic material.

145. The product of the process recited in claim 140, wherein said substrate comprises at least about 80 weight percent of a ceramic material.

146. The product of the process recited in claim 140, wherein said substrate comprises at least about 80 weight percent of a glass-ceramic material.

147. The product of the process recited in claim 140, wherein said substrate has a melting temperature of at least about 300 degrees Centigrade.

148. The product of the process in claim 140, wherein said substrate has a melting temperature of from about 580 to about 1,200 degrees Centigrade.

149. The product of the process recited in claim 140, wherein said substrate comprises at least about 80 weight percent of glass.

150. The product of the process recited in claim 149 wherein said product has a delta opacity of less than eight percent.

151. The product of the process recited in claim 150, wherein said product comprises a digital image with a resolution of at least about 100 dots per inch.

152. A process for manufacturing an imaged ceramic product with specified design properties, comprising the steps of:

(a) determining the design properties desired for said imaged ceramic product;

(b) electronically transmitting an order for said imaged ceramic product with said desired design properties to a fabricator of an imaged decal assembly;

(c) fabricating an imaged transfer assembly comprising a printed digital image;

(d) transferring said digital printed image to a ceramic substrate to produce a digitally printed ceramic substrate assembly; and

(e) heat treating said digitally printed ceramic substrate assembly to produce said imaged ceramic product.

153. The process as recited in claim 152, wherein said design properties are determined by reference to the world wide web.

154. The process as recited in claim152, wherein said design properties are determined by reference to a web site.

155. The process as recited in claim 154, wherein said web site contains illustrations of some images that may be placed onto said ceramic substrate.

156. The process as recited in claim 152, further comprising the step of determining the type of ceramic substrate.

157. The process as recited in claim 152, further comprising the step of determining the thickness of the ceramic substrate.

158. The process as recited in claim 152, further comprising the step of determining the shape of the ceramic substrate.

159. The process as recited in claim 152, further comprising the step of determining the finish of the ceramic substrate.

160 The process as recited in claim 152, further comprising the step of selecting the image that is to be printed.

161. The process as recited in claim 160, further comprising the step of determining the size of the image.

162. The process as recited in claim 161, further comprising the step of determining the location on the ceramic substrate of the image that is to be transferred.

163. The process as recited in claim 162, further comprising the step of determining the color of the image that is to be transferred.

164. The process as recited in claim 152, wherein said imaged decal assembly is comprised of a flexible support and, disposed on said support, a ceramic ink image, and wherein said ceramic ink image is comprised of from about 15 to about 75 weight percent of a sold, volatilizable carbonaceous binder.

165. The process as recited in claim 164 wherein said ceramic ink image comprises from about 23 to about 75 weight percent of a film-forming glass frit.

166. The process as recited in claim 165, wherein, when said solid, volatilizable, carbonaceous binder is heated at a temperature greater than 500 degrees Centigrade for at least 6 minutes in an atmosphere containing at least about 15 volume percent of oxygen, the binder is substantially volatilized such that less than about 5 weight percent of said carbonaceous binder remains as a solid phase.

167. The process as recited in claim 166, wherein said film-forming frit has a melting point of greater than about 300 degrees Celsius.

168. The process as recited in claim 167, wherein said imaged decal assembly is comprised of an opacifying agent, and wherein said opacifying agent has a particle size distribution such that substantially all of its particles are smaller than about 20 microns.

169. The process as recited in claim 168, wherein said opacifying agent has a first refractive index, and said film-forming frit has a second refractive index, such that the difference between said first refractive index and said second refractive index is at least about plus or minus 0.1.

170. The process as recited in claim 169, wherein said opacifying agent has a first melting point, and said film-forming frit has a second melting point, such that said first melting point exceeds said second melting point by at least about 50 degrees Celsius.

171. The process as recited in claim 170, wherein said opacifying agent has a first concentration in said ceramic ink image, said film-forming glass frit has a second concentration in said ceramic ink image, such that the ratio of said first concentration to said second concentration is no greater than about 1.25.

172. The process as recited in claim 152, further comprising the step of formatting data relating to said design properties.

173. The process as recited in claim 152, further comprising the step of creating an encapsulated postscript file.

174. The process as recited in claim 152, further comprising the step of creating a tagged image format file.

175. The process as recited in claim 152, further comprising the step of scanning an image.

176. The process as recited in claim 152, further comprising the step of printing an image onto a thermal transfer ribbon assembly.

177. The process as recited in claim 176, wherein said thermal transfer ribbon assembly is comprised of a thermal transfer ribbon, and wherein said thermal transfer ribbon is contiguous with a covercoated transfer decal.

178. The process as recited in claim 177, wherein said covercoated transfer decal is comprised of a flat, flexible support and a transferable covercoat releasably bound to said flat, flexible substrate.

179. The process as recited in claim 178 wherein, when said transferable covercoat is printed with an image to form an imaged decal assembly, said image has a higher degree of adhesion to said covercoat than said covercoat has to said flexible substrate.

180. The process as recited in claim 152, further comprising the step of cutting said digitally printed support assembly to a desired size.

181. The process as recited in claim152, further comprising the step of packing said digitally printed support assembly.

182. The process as recited in claim 152, further comprising the step of shipping said digitally printed support assembly.

183. The process as recited in claim 152, further comprising the step of tempering said digitally printed ceramic substrate.

184. The process as recited in claim 152, further comprising the step of framing said imaged ceramic product.

185. The process as recited in claim 152, further comprising the step of attaching hardware to said imaged ceramic product.

186. The process as recited in claim 152, comprising the step of applying adhesive to said imaged ceramic substrate.

187. The process as recited in claim 152, wherein said ceramic substrate is comprised of at least about 50 weight percent of silica.

188. The process as recited in claim 152, wherein said ceramic substrate is comprised of at least about 60 weight percent of silica.

189. The process as recited in claim 152, wherein said ceramic substrate is comprised of at least about 70 weight percent of silica.

190. The process as recited in claim 152, wherein said ceramic substrate has a melting point greater than about 300 degrees Celsius.

191. The process as recited in claim 152, wherein said ceramic substrate is flat.

192. The process as recited in claim 152, wherein said ceramic substrate has a Sheffield smoothness of less than about 200 Sheffield units.

193. The process as recited in claim 152, wherein said ceramic substrate has a Sheffield smoothness of less than about 100 Sheffield units.

194. The process as recited in claim 152, wherein said ceramic substrate has a Sheffield smoothness of less than about 20 Sheffield units.

195. The process as recited in claim 152, wherein said ceramic substrate is transparent.

196. The process as recited in claim 152, wherein said ceramic substrate is opaque.

197. The process as recited in claim 152, wherein said ceramic substrate has a thickness of from about 0.1 to about 0.8 inches.

198. The process as recited in claim 152, wherein said ceramic substrate is glass.

199. The process as recited in claim 198, wherein said glass is a soda-lime glass.

200. The process as recited in claim 198, wherein said glass is comprised of silica and at least one metal oxide.

201. The process as recited in claim 198, wherein said glass is comprised of calcium oxide.

202. The process as recited in claim 198, wherein said glass is comprised of sodium oxide.

203. The process as recited in claim 198, wherein said glass is selected from the group consisting of a potash-lime glass, lead glass, lead-alkali glass, borosilicate glass, aluminosilicate glass, phosphate glass, fused silica glass, flint glass, crystal glass, 96 percent silica glass, borax glass, optical glass, plate glass, conductive glass, colored glass, Monax glass, oxycarbide glass, and mixtures thereof.

204. The process as recited in claim 152, wherein wherein said ceramic substrate is an optical fiber comprised of glass.

205. The process as recited in claim 152, wherein said ceramic substrate is a glass-ceramic substrate.

206. The process as recited in claim 152, wherein said ceramic substrate comprises a coating of ceramic material disposed upon a non-ceramic material.

207. The process as recited in claim 206, wherein said non-ceramic material is steel.

208 The process as recited in claim 207, wherein said ceramic material is porcelain enamel.

208. The process as recited in claim 152, further comprising the step of cutting said ceramic substrate.

209. The process as recited in claim 152, further comprising the step of grinding said ceramic substrate.

210. The process as recited in claim 152, further comprising the step of polishing said ceramic substrate.

211. The process as recited in claim 152, further comprising the step of beveling said ceramic substrate.

212. The process as recited in claim 152, further comprising the step of forming a hole in said ceramic substrate.

213. The process as recited in claim 152, further comprising the step of washing said ceramic substrate.

214. The process as recited in claim 213, wherein said substrate is washed with hot liquid at a temperature of from about 40 to about 90 degrees Centigrade, thereby producing a washed substrate.

215. The process as recited in claim 214 wherein said hot liquid is hot water.

216. The process as recited in claim 215 comprising the step of drying said washed substrate to a moisture content of less than about 2 percent, thereby producing a dried substrate

217. The process as recited in claim 216, comprising the step of applying adhesive to said dried substrate.

218. The process as recited in claim 217, wherein said adhesive is pressure sensitive adhesive.

219. The process as recited in claim 218, further comprising the step of applying a pressure of from about 10 pounds per square inch to about 100 pounds per square inch to said applied adhesive while subjecting said adhesive to a temperature of from about 0 to about 50 degrees Centigrade.

220. The process as recited in claim 219, wherein said pressure is applied to said adhesive by a first laminator nip.

221. The process as recited in claim 220, wherein said pressure is applied to said adhesive by a second laminator nip.

222. The process as recited in claim 152, further comprising the steps of providing an imaged decal assembly comprised of a covercoated transfer sheet.

223. The process as recited in claim 222, comprising the step of printing a digital image onto said covercoated transfer sheet to produce an imaged transfer decal.

224. The process as recited in claim 152, further comprising the step of drying said ceramic substrate to a moisture content of less than about 0.1 percent, thereby producing a dried ceramic substrate.

225. The process as recited in claim 224, comprising the step of transferring a digitally printed image to said dried ceramic substrate to produce a digitally printed assembly comprised of said ceramic substrate and, disposed on said ceramic substrate, a digitally printed ceramic ink image.

226. The process as recited in claim 225, wherein said ceramic ink image comprises from about 15 to about 94.5 weight percent of a solid, volatilizable, carbonaceous binder, from about 5 to about 75 weight percent of a film-forming frit, and at least about 0.5 weight percent of an opacifying agent.

227. The process as recited in claim 152, comprising the step of subjecting said digitally printed ceramic substrate to a temperature of from about 620 to about 650 degrees Celsius for from about 3 to about 5 minutes.

228. The process as recited in claim 227, wherein, after said digitally printed ceramic substrate has been subjected to said temperature of from about 620 to about 650 degrees

Celsius for from about 3 to about 5 minutes, it is quenched to produced a quenched digitally printed assembly.

229. A method of providing an image for application to an object, comprising the steps of:

(a) collecting order details and specifications regarding decoration with a web based tool;

(b) transferring said collected order details and specifications to a service provider;

(c) processing and integrating said transferred order details and specifications into a standardized digital format;

(d) saving said processed and integrated order details and specifications to a file;

(e) transmitting said saved order details and specifications to a digital printer;

(f) producing an imaged transfer decal with said digital printer according to the instructions stored in said saved order details and specifications;

(g) transferring said imaged transfer decal to an applicator;

(h) preparing a ceramic substrate according to said collected order details and specifications;

(i) positioning said imaged transfer assembly with respect to said prepared ceramic substrate and transferring said image to said prepared ceramic substrate; and

(j) heat treating said transferred image and said ceramic substrate.

230. A method for providing an imaged substrate, comprising the steps of:

(a) promoting, collecting and transferring order details to a service provider via a web based tool in a standardized format;

(b) digitally producing an imaged transfer decal to said order details;

(c) positioning said imaged transfer assembly with respect to said prepared ceramic substrate and transferring said image to said prepared ceramic substrate;

(d) heat treating said transferred image and said ceramic substrate; and

(e) fabricating said heat treated digitally printed assembly according to order details.

231. A system for transferring a digitally formed image, said system comprising:

(a) a device for transferring an image transfer medium to a ceramic object; and

(b) a device for adhesively removing a portion of said transferred image transfer medium.

232. A system for providing an image on a ceramic substrate, said system comprising:

(a) a ceramic substrate conveyor;

(b) an adhesive applicator for applying adhesive to a surface of said conveyed ceramic substrate;

(c) an image transfer medium conveyor and positioner for conveying and positioning said image transfer medium with respect to the ceramic substrate, said image transfer medium comprising a transfer substrate, a cover coating, and a digitally printed image;

(d) an image transfer medium applicator for applying said positioned image tranfer medium to the adhesive applied to the ceramic substrate, and for removing said transfer substrate fro the applied cover coating and form the applied digitally printed image; and

(e) a heat treater for removing said applied cover coating and said applied adhesive, and said carbonaceous binder and for fusing said digitally printed image to the ceramic substrate.

233. A system for forming a digitally printed image in a glass substrate, said system comprising:

(a) a glass substrate conveyor;

(b) a glass substrate washer for washing said conveyed glass substrate;

(c) an adhesive applicator for applying with pressure a coating of adhesive to the surface of said washed glass substrate;

(d) an image transfer medium conveyor and positioner for conveying and positioning said image transfer medium with respect to the adhesive-coated glass substrate, said image transfer medium comprising a flexible support, a polymeric cover coating, and a digitally printed image;

(f) an image transfer medium applicator for applying with pressure said positioned image transfer medium to the adhesive-coated glass support, and for adhesively separating and removing said flexible transfer support for the applied cover coating and from the applied digitally printed image;

(g) a heat treater for removing said applied covercoating and said applied adhesive and said carbonaceous binder and for fusing said digitally printed image to the surface of said glass substrate; and

(h) a quencher for cooling said fused digitally printed image and glass substrate.

234. A process for transferring a digitally formed image, comprising:

(a) transferring an image transfer medium to a ceramic object; and

(b) adhesively removing a portion of said transferred image transfer medium.

235. A process for providing an image on a ceramic substrate, comprising:

(a) conveying a ceramic substrate,

(b)applying adhesive to a surface of said conveyed ceramic substrate;

(c) conveying and positioning positioning an image transfer medium with respect to the ceramic substrate, said image transfer medium comprising a transfer substrate, a cover coating, and a digitally printed image,

(d) applying said positioned image tranfer medium to the adhesive applied to the ceramic substrate, removing said transfer substrate from the applied cover coating and forming the applied digitally printed image; and

(e) removing said applied cover coating and said applied adhesive, and said carbonaceous binder and fusing said digitally printed image to the ceramic substrate.

236. A process for forming a digitally printed image in a glass substrate, comprising:

(a) conveying a glass substrate;

(b) washing said conveyed glass substrate;

(c) applying with pressure a coating of adhesive to the surface of said washed glass substrate;

(d) conveying and positioning an image transfer medium with respect to the adhesive-coated glass substrate, said image transfer medium comprising a flexible support, a polymeric cover coating, and a digitally printed image;

(f) applying with pressure said positioned image transfer medium to the adhesive-coated glass support, and adhesively separating and removing said flexible transfer support for the applied cover coating and from the applied digitally printed image;

(g) removing said applied covercoating and said applied adhesive and said carbonaceous binder and fusing said digitally printed image to the surface of said glass substrate; and

(h) cooling said fused digitally printed image and glass substrate.